

AMENDMENTS TO THE SPECIFICATION

IN THE SPECIFICATION

On page 93, please delete the paragraph beginning on line 23 and ending on page 94, line 14, and replace with the following paragraph:

PCR amplification plus BsaI digestion of specific insert fragments was employed to generate the sticky ends in the present demonstration. For more general applications (e.g., construction of shotgun libraries), this limitation may be circumvented by appending double-stranded oligonucleotide linkers to blunt-ended insert pools, similar to addition of C4 and T4 linkers to sheared lambda DNA in the initial ligations described in this Example. For example, insert DNA is fragmented by hydrodynamic shearing and aliquotted into two pools. One pool of DNA fragments is ligated to the "AGGA" double-stranded linker, which has one blunt end and one 5' overhang of AGGA. The AGGA double-stranded linker is generated by annealing the primers AGGA-Lnk: AGC GGC CGC AGA CTT GCC TGA CCA TTG AAG GA (SEQ ID NO:128) and Not-comp (SEQ ID NO:82). A second pool of DNA fragments is ligated to the "CGAC" double-stranded linker, which has one blunt end and one 5' overhang of CGAC. The CGAC double stranded linker is generated by annealing the primers CGAC-Lnk: AGC GGC CGC AGA CTT GCC TGA CCA TTG A CGA C (SEQ ID NO:~~129~~ 84) and Not-comp (SEQ ID NO:82). After ligation to the linkers, insert DNA fragments are fractionated by agarose gel electrophoresis to purify fragments of a desired size range (e.g., 2-4 kb) and to remove fragments of other sizes, including un-ligated and self-ligated linkers. The insert fragments are purified from the agarose gel and ligated to vector components (e.g., ATBbs and KBsa) that have one end compatible to each pool of insert DNA fragments. The ligation reactions are transformed into MC12 cells, and transformants are selected on plates containing ampicillin and kanamycin. The number of insert fragment pools and vector components is not limited by the availability of selectable markers, since the vector components and insert fragments can be configured to permit formation of a closed circular plasmid only by ligation of a particular insert fragment between two particular vector components, the said insert fragment acting as a "bridge" between the two said vector components.